

304 Ø 0.750

Work Order ID 160625***160625***

Page 1

Tuesday, May 02, 2017 10:21:58 AM

Item ID: D3953-3**Accept*****N900040100*****Setup Start*****NS1*****Revision ID:****Stop*****NS2*****Item Name:** Gas Spring Stud, Lid**Start Date:** 5/10/2017 **Start Qty:** 60.00***60*****Cust Item ID:****Required Date:** 5/16/2017 **Req'd Qty:** 60.00***60*****Customer:****Reference:** SCHEDULED/S**Approvals:** **Process Plan:** **Date:** 5/17/2017 **Tooling:****Date:****Run Start*****NR1*****QC:****Date:** **SPC (Y/N):****Date:****Stop*****NR2*****Sequence ID/
Work Center ID****Operation
Description****Set Up/
Run Hours****Tool ID****Tool #****Plan
Code****Accept
Qty****Reject
Qty****Reject
Number****Insp.
Stamp****Draw Nbr****Revision Nbr**

D3953

C

100

0.89

100

Doosan

Doosan Lathe

Memo

Turn as per folio FA852 & DWG

FOLIO REV: AADWG REV: C

DEBURR

5.56

110

QC2- Inspect parts off machine FAI/FAIB

0.00

110

QC

Quality Control

Memo

0.60

DAS
45
9-89

2017-6-2

DAS
45
9-89

2017-6-2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐				
		OTHER : ☐							

Tuesday, May 02, 2017 10:21:58 AM

160625

Page 2

N900040100

Setup Start *NS1*

Stop *NS2*

60

Cust Item ID:

Start Date: 5/10/2017 **Start Qty:** 60.00

Required Date: 5/16/2017 **Req'd Qty:** 60.00

60

Customer:

Reference: SCHEDULED/S

Run Start *NR1*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Stop ***NR2***

OC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

120 QC8- Inspect parts - second check

0.00

120

1.20

QC

Memo

Quality Control

DAS
14
9-89

17/10/02

130 Identify as per dwg & Stock Location: J7660A 0.00

0.00

130

0.60

Packaging

Memo

Packaging

60

JUN 02 2017

DA
6
9-80

140	QC21- Final Inspection - Work Order Release	0.00
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0.00

140

6.00

OC

Memo

Quality Control

17/6/79

JUN 02 2017

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
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Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

Picklist Print

Tuesday, May 02, 2017 10:21:58 AM

Page 1
T

Work Order ID: 160625

160625

Parent Item: D3953-3

D3953-3

Parent Item Name: Gas Spring Stud, Lid

Start Date: 5/10/2017

Required Date: 5/16/2017

Start Qty: 60.00

Required Qty: 60.00

Comments: IPP RevA: New issue DD verified by:EC
per dwg revC DD 10.03.02 verified by:EC

IPP Rev:B as

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304RO.750		Purchased		No		100	f	35.2920	0.125	7.894737			

M304RO 750

**

304 SS Roundbar .750

Location	Loc Qty	Loc Code
MAT	0.583	
M135512	0.583	
MAT029	34.709	
M137175	10.709	
M137400	24	

137599 = 48 + 48

7

7.4

DAS
45
9-80 2017-6-2

8,1 ft

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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OTHER : ☐									

DART AEROSPACE LTD		Work Order: 160625
Description: Gas Spring Stud, Lid		Part Number: D3953-3
Inspection Dwg: D3953	Rev: C	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ **First Article**
☐ **Prototype**

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.75	+/-0.030	751	✓		VERN	SL-10
0.56	+/-0.010	560	✓			
0.281	+/-0.010	282	✓			
1/4-28 UNF-2A	N/A					
Major Ø	Max = 0.2490 Min = 0.2425	246	✓		mic	SL-4
M.O.W.	Max = 0.26687 Min = 0.26357	265	✓			
Ø0.098	+0.004/-0.001	098	✓			
Ø0.250	+/-0.010	246	✓			
0.170	+/-0.010	170	✓			
0.330	+/-0.010	330	✓			
0.13	+/-0.030	132	✓			
R0.06	+/-0.030	R.060	✓			
1.31	+/-0.030	1.313	✓			

Measured by: JH	Audited by: DAS 14 9-89	Prototype Approval:	N/A
Date: 16-6-1	Date: 17/06/02	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	09.10.22	New Issue	KJ	
B	09.12.14	Dwg Rev updated	KJ	

DQA: _____ Date: _____



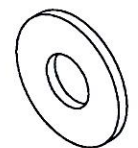
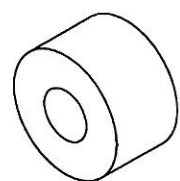
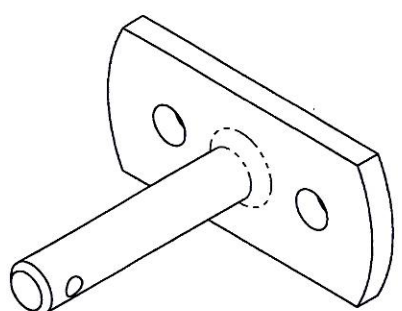
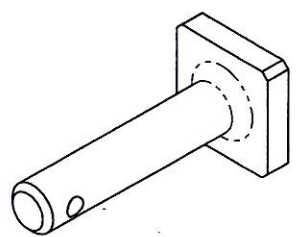
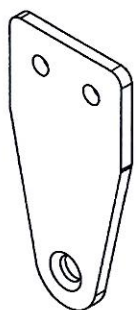
WORK ORDER NON-CONFORMANCE / UPDATE

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Misidentified ☐	Past Due ☐																																																														

8 7 6 5 4 3 2 1



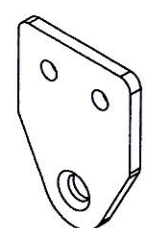
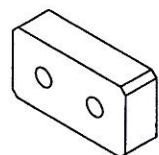
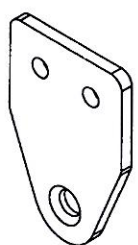
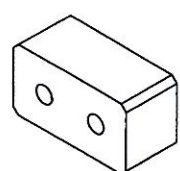
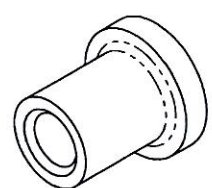
D3953-1 GAS SPRING BRACKET
(FULL LID)

D3953-3 GAS SPRING STUD, LID

D3953-5 GAS SPRING STUD, BASE

D3953-7 GAS SPRING SPACER

D3953-9 GAS SPRING WASHER



RELEASED
2010-02-26

D3953-11 GAS SPRING SPACER

D3953-13 GAS SPRING SPACER
(FULL LID)

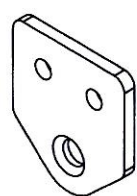
D3953-15 GAS SPRING BRACKET
(SPLIT LID)

D3953-17 GAS SPRING SPACER
(SPLIT LID)

D3953-19 GAS SPRING BRACKET
(SQUARE BASKET)

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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 16061

20170502



D3953-21 GAS SPRING BRACKET
(SQUARE BASKET)

C	PARTS -19 & -21 ADDED (SHT 18.4); CSK CALLOUT WAS CHAM (C5-2, B6-3, C6-4); 6 SYMM WAS 6 SYM ABOUT (C7-2, C7-4); SECTION C-C REPOSITIONED TO B2-4 REASON: ADDL PARTS REQD; DRAFTING ERRORS	JPH	10.01.29
B	SHEET 3 ZONE C1, DIM 0.05 MIN WAS 0.13, MULTIPLE DIMENSIONS MIN/MAX REMOVED TOLERANCE ADDED. REASON: DIFFICULTY INSTALLING COTTER PIN AT NEXT ASSY.	AJS	09.11.11
A	NEW ISSUE	AJS	09.07.27
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	JPH		
CHECKED	JPH	DRAWING NO. D3953	REV. C
MFG. APPR.	JPH	SHEET 1 OF 4	
APPROVED	JPH	TITLE	SCALE
DE APPR.	JPH	GAS SPRING LID COMPONENTS	NTS
DATE	10.01.29	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

8 7 6 5 4 3 2 1

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

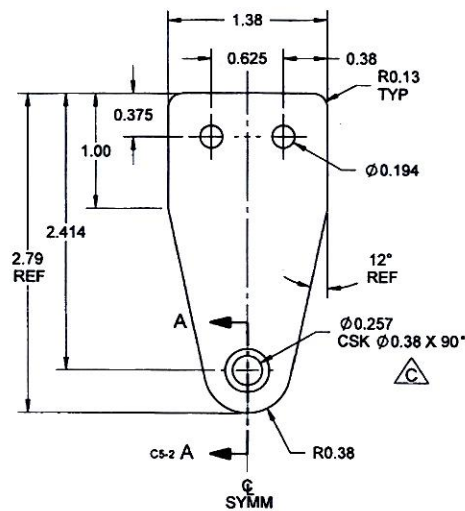
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Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER : _____							

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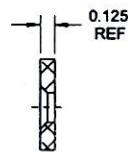
WITHOUT NOTICE
WORK ORDER

NO. 160625

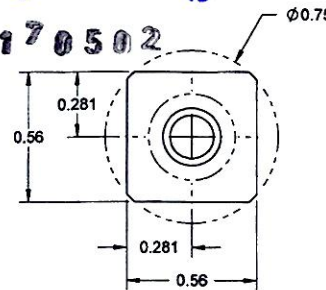
20170502



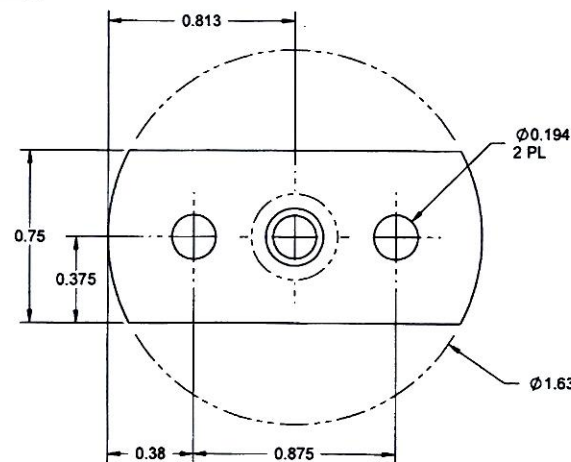
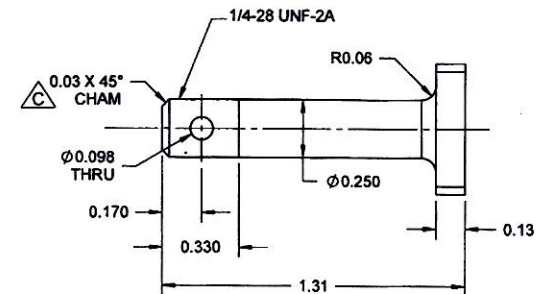
D3953-1 GAS SPRING BRACKET
(FULL LID)



SECTION A-A C7-2



D3953-3 GAS SPRING STUD, LID



D3953-5 GAS SPRING STUD, BASE

NOTES:

1) MATERIAL -1: 304/316 STAINLESS STEEL SHEET ANNEALED 2B FINISH,
PER MIL-S-5059 OR AMS 5513/5524 OR ASTM A240 OR ASME SA240
REF DART SPEC M304S11GA

-3 & -5: AISI 304 STAINLESS STEEL BAR
REF DART SPEC M304B
OR:
AISI 304/316 STAINLESS STEEL ROD
REF DART SPEC M304R

- 2) FINISH: N/A
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3953-X" USING FINE POINT PERMANENT INK MARKER
7) WEIGHT -1: 0.11 lbs
-3: 0.03 lbs
-5: 0.06 lbs

DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	JPH	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. C
MFG. APPR.	<i>[Signature]</i>	D3953	SHEET 2 OF 4
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	GAS SPRING LID COMPONENTS	NTS
DATE	10.01.29	COPYRIGHT © 2009 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

RELEASED
2010-02-26

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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER : _____							